

age, I may here give a brief description of a plan of ventilated drainage, which promises to be very successful in certain cases, having seen, several years ago, the trouble and damage caused to the roofs and cornices of buildings in the winter by the ice. The flat roofs, just then coming into use, seemed to offer a means of getting rid of the difficulty, and in designing the roof for a large warehouse, I made the slopes of this roof to descend from the walls to the centre of the building, from which it was to be carried by a single pipe into a tank, placed in the upper story of the building, so that the water might be available in case of fire or for other service. This tank, which had an overflow pipe into the common sewer, was dispensed with, owing to the near completion of the City Water Works, and a single pipe conducted the water from the centre of the roof down to the drain.

All the winter difficulties usual to roofs were got rid of by this arrangement; but the roof, which was covered with metal, did not give satisfaction, as it was impossible to keep it water-tight. Since that time, 1855, the ordinary gravel roof, which is admirably adapted for the purpose, has been frequently used in the form above mentioned with great success. The pipe descending from this form of roof to the common sewer, by reason of its vertical position and height, makes an excellent ventilator for the sewer, and will withdraw large quantities of gas from the same, and recently Professor Godfrey has further utilized a pipe of this kind from the roof of the new medical college, by connecting with it the water closet service of the establishment. He finds the up draught is so strong as to render soil traps unnecessary. Of course, any such pipe to be competent for all these services requires great care in its construction, and as the up draught will vary greatly in different situations and circumstances, it will be well not to attach a water closet to it without a soil trap. As it is essential, also, for this pipe to descend pretty near the centre of the building, it might not always suit the interior arrangement of dwellings, and it must be evident that great precaution is necessary to prevent any settlement or movement of the pipe, as any fracture or displacement of its continuity would be very disastrous. Finally, care must be taken to prevent the entrance of substances likely to choke the pipe,—and water closets without traps offer great facilities for getting rid of all sorts of rubbish calculated to effect this.